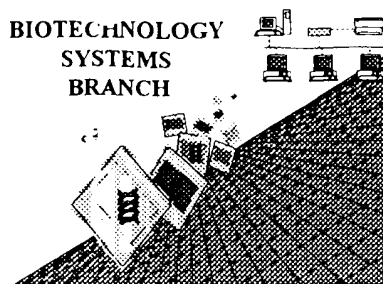


RAW SEQUENCE LISTING **ERROR REPORT**

BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/763,994

Source: PG 09

Date Processed by STIC: 2/11/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
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FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

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TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW:

Checker Version 3.0

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25.

Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:

<http://www.uspto.gov/web/offices/pac/checker>

PCT09

RAW SEQUENCE LISTING

DATE: 07/11/2001

PATENT APPLICATION: US/09/763,994

TIME: 11:05:29

Input Set : A:\X-12239SeqList.app

Output Set : N:\CRF3\07112001\I763994.raw

Does NOT copy
directly to disk. needed.

f6

2 #110 * APPLICANT: Edmonds, Brian T.

5 #120 * TITLE OF INVENTION: HUMAN LATENT TRANSFORMING GROWTH FACTOR-BETA BINDING
6 PROTEIN 2

9 #130 * FILE REFERENCE: X-12239

C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/763,994

C--> 11 <141> CURRENT FILING DATE: 2001-06-08

13 #160 * NUMBER OF SEQ ID NOS: 6

15 #170 * SOFTWARE: PatentIn Ver. 2.0

17 #210 * SEQ ID NO: 1

18 #211 * LENGTH: 3624

19 #212 * TYPE: DNA

20 #213 * ORGANISM: Homo sapiens

22 #400 * SEQUENCE: 1

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23 cggggggcag gggggggcag gggggggcag cggggggcag tcaagggtgt ttttggggcg 60
24 gtgatctgca aggggagctg tctcaagggc cagtgtgggg aagattgtca gcagggtctc 120
25 aacatgaagc tcatggagga gaaggggcac agcacagaca cgtcacggg ctcgggtctc 180
26 cgggtgggtg ggtggctctt cctgtggatg aatggggggc agtggctctc gggaaacacg 240
27 tgcctgtgtc cccgggactt cactgggggc ttcgggcagg tggggcagg aggagcgggt 300
28 ggggggtacg gggtttagg cccggggctg agcaggacag gggggctgtc cccaggggcg 360
29 ctggggccgc tgggtcggga gggggactct gggggcagca agcaggcat ctacgggtc 420
30 caggtgatcg ctgacgtctc tggggggggg gagggggtct ctgggcagca cgcagccttc 480
31 ctggtgcccc tagggggggg acagatctca gcagaagtc aggggggggc cccgtgggtg 540
32 aatgtggcg tccatcccc gggggagggc tcagtcagg tgcacggat tgagagctcg 600
33 aacggcgaga gggcagcccc ctccagcac ctgctgggc aacccaagcc ctgcacccc 660
34 cgggcggcca cccagaagtc cctggggggc tgttttcagg aactctggc caggcagccg 720
35 tgtggcagca acgggtctcc cgggtctcac aagcagggaag actgctggg tagcatcggc 780
36 actggtgggg ggcagagcaa gtggccacaag tgtcccccgc tgcagtacac aggagtgcag 840
37 aagccagggc ctgtacttg ggaagtgggg gctgactgtc cccagggtca caagaggtt 900
38 aacagccccc actggcagga cttcaacagg tgggaatgc cgggggtgtg tggccatggt 960
39 cactgctca acaaccttg ctctatcgg tgtgtctgac cactgggca tagtttaggc 1020
40 ccttccgtg caagctctat tgcagacaaa cgggaggaga agagctgtg tttccggctg 1080
41 ctgagccttg agaacagtg caggcaccac ctgaccacc gctgacccg ccagctctg 1140
42 tgcctgagtg tgggaaggc ctggggggcg cgtgttcagg gctggccaac agatggcacc 1200
43 cgtggtttca agagatctg cccagctggg aagggatcac acattctcac ctccacacg 1260
44 acgctcacca ttcaggtaga gactgacttt tccctctctc tgcacccgga cggggccccc 1320
45 aagccccagc agtttcggga ggggttagc cagggtccac cactgaggga cccagaggaa 1380
46 aagagagggg tgaccacgga ctccaggtg agtgaggaga ggtcagtgca gcagagccac 1440
47 ccaactgcca cccagactcc tggggggccc taccggagc tgatctccg tccctggccc 1500
48 ccgacatgc gttggttctt ggggacttg cctctctccc gcaggcctg agagatcgct 1560
49 cccactcagg tccagagagc tgatgagtgc cgaatgaacc agaactctg tggcctggga 1620
50 agtgggtg cggggccccc tgactactcc tggactgca acccgggtca cgggtccat 1680
51 cccagccacc gttactggtt ggtgtggaic gagtgcaggg cagagcctg tggccggggg 1740
52 aggggcatct gcatgaacac cgggggtctc taccattgct actgaaccc cgggtacccc 1800
53 ctgacagtg ggcggggggg ggggtctgtg gtggaactga accaatggc ccaagccccc 1860
54 ctgtggggg acgggggtct ctgacccaac tttccgggtc actcaagtg caactgtctc 1920
55 cccgggtacc ggtcaaacg ctccgggct cctgtatgg aagacatcga cgaatgcagg 1980
56 gacccaagct cttggccgga tggcaaatgc gagaacaaac cgggagctt caagtgcctc 2040

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:29

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Output Set: N:\CRF3\07112001\I763994.raw

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57 gactgtcagc ctggctacgg cagccagggg ggccggggct gtccggagct gaacgagtg 2150
58 gccgagggga gccctcgtc gccctgggtg tgcgagaacc tcccgggctc cttccgctgc 2160
59 acctgtgccc agggctacgc gcccgggccc gacggccgca gttgcttggg tggggacgag 2170
60 tgtgaggtcg ggaacgtgtg tgacaatggg atctgcagca acacggccagg atctttccag 2180
61 tgtcagtgcc tctctggcta ccatctgtcc agggacggga gccactggga ggacattgat 2190
62 gagtgtgact tctctgagc cggcattggg ggtgactgca tcaatcccaa tggctccctac 2200
63 aatgtctttt gcccccaggg gcctcgggtg gtggggggga ggaatggca agacatagat 2210
64 gagtgcagcc agpacccagc cctgtgcctt ccccatgggg cctggaagaa ccttcagggc 2220
65 tctatgtgtg gttcttgga tgagggtctt actccacccc aggaacagca cggtttgtgag 2230
66 gaggtggagc agcccacca caagaaggag tctacccgca acttcgatga cacagtgttc 2240
67 tgcagagcg taattggcac caacgtgacc cagcaggagt gctgctgtcc tctggggggc 2250
68 ggtctggggc acctctgga aactctaccc tggccagctt acagctcagc cagattccac 2260
69 agcctctgcc cagacggaaa gggctacacc caggacaaca acatcgtcaa ctacggcctc 2270
70 cagcccccac gtcacatgga cgaatgcatt tctctcgggt cggagatttg caaggagggc 2280
71 aagtgcgtga acacgcagcc tggctacgag tctactgca agcagggtt ctactacgac 2290
72 gggaaacctg tggaaatggt ggaagtggac gagtgcctgg acgagtccaa ctgcgggaac 2300
73 gtagtgtgtg agaacaaggc cgggggttac cgtgtgctt gcaagccccc tgcagagtac 2310
74 agtcocgggc agggccagtg cctgagcccg gaagagatgg agagtgcac cgaagggggc 2320
75 gactgtgctt ggagccagcg cggagaggac ggaatgtgag ctggccctct ggccgggctt 2330
76 gccctcaact tgcagagtg ctgctgccc cagggccggc gctgggggcg caatgcgca 2340
77 cgtgcocccg cggcggggcg ggggtcccat tgcgcagcat cgcagagcga gajcaattcc 2350
78 tctggggaca caagccctct gctgttgggg aagcccccba gagatgagga cagttccagc 2360
79 gaggattccg acgagtgtag ctggctgagt ggcctctgct tgcgggggac ggjggggccc 2370
80 gttgogagct gtcggggggc ctccagcttc gaagctcccc ggcggcgctg cgtggatata 2380
81 gacgagtgct gacagctgaa ccagcgggcg ctgctgtgca agagcgagcg ctjgctgaac 2390
82 accagcggtt ccttcgctg cgtctgcaaa gcgggtctcg cgcgcagcgc ccgcacggg 2400
83 gactggctc ccagcgagcg cgcg                                     3624

```

#10 - SEQ ID NO: 1

#11 - LENGTH: 1208

#12 - TYPE: CDS

#13 - ORGANISM: Homo sapiens

#100 - SEQUENCE: 2

```

81 Arg Gly Ala Gly Gly Gly Gly Ala Leu Ala Arg Glu Arg Phe Lys Val
82      1           5           10           15
84 Val Phe Ala Pro Val Ile Cys Lys Arg Thr Cys Leu Lys Gly Gln Cys
85      20          25          30
87 Arg Asp Ser Cys Gln Gln Gly Ser Asn Met Thr Leu Ile Gly Glu Asn
88      35          40          45
90 Gly His Ser Thr Asp Thr Leu Thr Gly Ser Gly Phe Arg Val Val Val
91      50          55          60
93 Cys Pro Leu Pro Cys Met Asn Gly Gly Gln Cys Ser Ser Arg Asn Gln
94      65          70          75          80
96 Cys Leu Cys Pro Pro Asp Phe Thr Gly Arg Phe Cys Gln Val Pro Ala
97      85          90          95
99 Gly Gly Ala Gly Gly Gly Thr Gly Gly Ser Gly Pro Gly Leu Ser Arg
100     100         105         110
102 Thr Gly Ala Leu Ser Thr Gly Ala Leu Pro Pro Leu Ala Pro Glu Gly
103     115         120         125
105 Asp Ser Val Ala Ser Lys His Ala Ile Tyr Ala Val Gln Val Ile Ala

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:29

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Output Set: N:\CRF3\07112001\I763994.raw

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116      130      135      140
118 Asp Pro Pro Gly Pro Gly Glu Gly Pro Pro Ala Gln His Ala Ala Phe
119 145      150      155      160
121 Leu Val Pro Leu Gly Pro Gly Gln Ile Ser Ala Glu Val Gln Ala Pro
122      165      170      175
124 Pro Pro Val Val Asn Val Arg Val His His Pro Pro Glu Ala Ser Val
125      180      185      190
127 Gln Val His Arg Ile Glu Ser Ser Asn Ala Glu Ser Ala Ala Pro Ser
128      195      200      205
130 Gln His Leu Leu Pro His Pro Lys Pro Ser His Pro Arg Pro Pro Thr
131      210      215      220
133 Gln Lys Ser Leu Gly Arg Cys Phe Gln Asp Thr Leu Pro Lys Gln Pro
134 225      230      235      240
136 Cys Gly Ser Asn Pro Leu Pro Gly Leu Thr Lys Gln His Asp Cys Cys
137      245      250      255
139 Gly Ser Ile Gly Thr Ala Trp Gly Gln Ser Lys Cys His Lys Cys Pro
140      260      265      270
142 Gln Leu Gln Tyr Thr Gly Val Gln Lys Pro Gly Pro Val Arg Gly Glu
143      275      280      285
145 Val Gly Ala Asp Cys Pro Gln Gly Tyr Lys Arg Leu Asn Ser Thr His
146      290      295      300
148 Cys Gln Asp Ile Asn Glu Cys Ala Met Pro Gly Val Lys Arg His Gly
149 305      310      315      320
151 Asp Cys Leu Asn Asn Pro Gly Ser Tyr Arg Cys Val Lys Pro Pro Gly
152      325      330      335
154 His Ser Leu Gly Pro Ser Arg Thr Gln Cys Ile Ala Asp Lys Pro Glu
155      340      345      350
157 Glu Lys Ser Leu Cys Phe Arg Leu Val Ser Pro Glu His Gln Cys Gln
158      355      360      365
160 His Pro Leu Thr Thr Arg Leu Thr Arg Gln Leu Cys Cys Cys Ser Val
161      370      375      380
163 Gly Lys Ala Trp Gly Ala Arg Cys Gln Arg Cys Pro Thr Asp Gly Thr
164 385      390      395      400
166 Ala Ala Phe Lys Glu Ile Cys Pro Ala Gly Lys Gly Tyr His Ile Leu
167      405      410      415
169 Thr Ser His Gln Thr Leu Thr Ile Gln Gly Glu Ser Asp Phe Ser Leu
170      420      425      430
172 Phe Leu His Pro Asp Gly Pro Pro Lys Pro Gln Gln Leu Pro Glu Ser
173      435      440      445
175 Pro Ser Gln Ala Pro Pro Pro Glu Asp Thr Glu Glu Arg Gly Val
176      450      455      460
178 Thr Thr Asp Ser Pro Val Ser Glu Glu Arg Ser Val Gln Gln Ser His
179 465      470      475      480
181 Pro Thr Ala Thr Thr Thr Pro Ala Arg Pro Tyr Pro Glu Leu Ile Ser
182      485      490      495
184 Arg Pro Ser Pro Pro Thr Met Arg Trp Phe Leu Pro Asp Leu Pro Pro
185      500      505      510
187 Ser Arg Ser Ala Val Glu Ile Ala Pro Thr Gln Val Thr Glu Thr Asp
188      515      520      525

```

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Input Set : A:\X-12239SeqList.app

Output Set: N:\CRF3\07112001\I763994.raw

```

190 Glu Cys Arg Leu Asn Gln Asn Ile Cys Gly His Gly Glu Cys Val Pro
191      530      535      540
193 Gly Pro Pro Asp Tyr Ser Cys His Cys Asn Pro Gly Tyr Arg Ser His
194 545      550      555      560
196 Pro Gln His Arg Tyr Cys Val Asp Val Asn Glu Cys Glu Ala Glu Pro
197      565      570      575
199 Cys Gly Pro Gly Arg Gly Ile Cys Met Asn Thr Gly Gly Ser Tyr Asn
200      580      585      590
202 Cys His Cys Asn Arg Gly Tyr Arg Leu His Val Gly Ala Gly Gly Arg
203 595      600      605
205 Ser Cys Val Asp Leu Asn Glu Cys Ala Lys Pro His Leu Cys Gly Asp
206 610      615      620
208 Gly Gly Phe Cys Ile Asn Phe Pro Gly His Tyr Lys Cys Asn Cys Tyr
209 625      630      635      640
211 Pro Gly Tyr Arg Leu Lys Ala Ser Arg Pro Pro Val Cys Glu Asp Ile
212      645      650      655
214 Asp Glu Cys Arg Asp Pro Ser Ser Cys Pro Asp Gly Lys Cys Glu Asn
215 660      665      670
217 Lys Pro Gly Ser Phe Lys Cys Ile Ala Cys Gln Pro Gly Tyr Arg Ser
218 675      680      685
220 Gln Gly Gly Gly Ala Cys Arg Asp Val Asn Glu Cys Ala Glu Gly Ser
221 690      695      700
223 Pro Cys Ser Pro Gly Trp Cys Glu Asn Leu Pro Gly Ser Phe Arg Cys
224 705      710      715      720
226 Thr Cys Ala Gln Gly Tyr Ala Pro Ala Pro Asp Gly Arg Ser Cys Leu
227 725      730      735
229 Asp Val Asp Glu Cys Glu Ala Gly Asp Val Cys Asp Asn Gly Ile Cys
230 740      745      750
232 Ser Asn Thr Pro Gly Ser Phe Gln Cys Gln Cys Leu Ser Gly Tyr His
233 755      760      765
235 Leu Ser Arg Asp Arg Ser His Cys Glu Asp Ile Asp Glu Cys Asp Phe
236 770      775      780
238 Pro Ala Ala Cys Ile Gly Gly Asp Cys Ile Asn Thr Asn Gly Ser Tyr
239 785      790      795      800
241 Arg Cys Leu Cys Pro Gln Gly His Arg Leu Val Gly Gly Arg Lys Cys
242 805      810      815
244 Gln Asp Ile Asp Glu Cys Ser Gln Asp Pro Ser Leu Cys Leu Pro His
245 820      825      830
247 Gly Ala Cys Lys Asn Leu Gln Gly Ser Tyr Val Cys Val Cys Asp Glu
248 835      840      845
250 Gly Phe Thr Pro Thr Gln Asp Gln His Gly Cys Glu Glu Val Gln Gln
251 850      855      860
253 Pro His His Lys Lys Glu Cys Tyr Leu Asn Phe Asp Asp Thr Val Phe
254 865      870      875      880
256 Cys Asp Ser Val Leu Ala Thr Asn Val Thr Gln Gln Glu Cys Cys Cys
257 885      890      895
259 Ser Leu Gly Ala Gly Trp Gly Asp His Cys Glu Ile Tyr Pro Cys Pro
260 900      905      910
262 Val Tyr Ser Ser Ala Glu Phe His Ser Leu Cys Pro Asp Gly Lys Gly

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

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Input Set : A:\X-12239SeqList.app

Output Set: N:\CRF3\07112001\I763994.raw

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363          915          920          925
365 Tyr Thr Gln Asp Asn Asn Ile Val Asn Tyr Gly Ile Pro Ala His Arg
366          930          935          940
368 Asp Ile Asp Glu Cys Met Leu Phe Gly Ser Glu Ile Cys Lys Glu Gly
369 945          950          955          960
371 Lys Cys Val Asn Thr Gln Pro Gly Tyr Glu Cys Tyr Cys Lys Gln Gly
372          965          970          975
374 Phe Tyr Tyr Asp Gly Asn Leu Leu Glu Cys Val Asp Val Asp Glu Cys
375          980          985          990
377 Leu Asp Glu Ser Asn Cys Arg Asn Gly Val Cys Glu Asn Thr Arg Gly
378          995          1000          1005
380 Gly Tyr Arg Cys Ala Cys Thr Pro Pro Ala Glu Tyr Ser Pro Ala Glu
381          1010          1015          1020
383 Arg Gln Cys Leu Ser Pro Glu Glu Met Glu Arg Ala Pro Glu Arg Arg
384 1025          1030          1035          1040
386 Asp Val Cys Trp Ser Gln Arg Gly Glu Asp Gly Met Cys Ala Gly Pro
387          1045          1050          1055
389 Leu Ala Gly Pro Ala Leu Thr Phe Asp Asp Cys Cys Cys Arg Gln Gly
390          1060          1065          1070
392 Arg Gly Trp Gly Ala Glu Cys Arg Pro Cys Pro Pro Arg Gly Ala Gly
393          1075          1080          1085
395 Ser His Cys Pro Thr Ser Gln Ser Glu Ser Asn Ser Phe Trp Asp Thr
396          1090          1095          1100
398 Ser Pro Leu Leu Leu Gly Lys Pro Pro Arg Asp Glu Asp Ser Ser Glu
399 1105          1110          1115          1120
401 Glu Asp Ser Asp Glu Cys Arg Cys Val Ser Gly Arg Cys Val Pro Arg
402          1125          1130          1135
404 Pro Gly Gly Ala Val Cys Glu Cys Pro Gly Gly Phe Gln Leu Asp Ala
405          1140          1145          1150
407 Ser Arg Ala Arg Cys Val Asp Ile Asp Glu Cys Arg Glu Leu Asn Gln
408          1155          1160          1165
410 Arg Gly Leu Leu Cys Lys Ser Glu Arg Cys Val Asn Thr Ser Gly Ser
411          1170          1175          1180
413 Phe Arg Cys Val Cys Lys Ala Gly Phe Ala Arg Ser Arg Pro His Gly
414 1185          1190          1195          1200
416 Ala Cys Val Pro Gln Arg Arg Arg
417          1205

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418 <110> SEQ ID NO:

419 <111> LENGTH: 3771

420 <112> TYPE: DNA

421 <113> ORGANISM: Homo sapiens

422 <114> SEQUENCE: 3

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423 cgggggggcag gggggggggg gggggtgggc cggagcgcct tcaaggtggg ctttgccgcg 60
424 ctgatctgca agcggacctg tctcaagggc cagtgtccgg acagtgtgca gcagggtccc 120
425 aacatgaagg tcatcgga gaacggccac agcacagaca cgttcacggg ctccggcttc 180
426 cgggtgggtg tgtgcctct cccctgcatg aatggcgccc agtgcctctt gggaaaaccag 240
427 tgcctgtgtc cccggactt cactgggcgc ttctgccagg tggccgcagg aggagccggt 300
428 gggggtacgg ggggtccagg cccgggcttg agcaggacag gggccctgtc caaaggggag 360
429 ctgcgcgcgc tggctccgga gggcgactct gtggccagca agcacgccat ctacgcctc 420

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C9/763994 6

<210> 6
<211> 1257
<212> PRT
<213> Homo sapiens

<220>

<223> Xaa = any amino acid encoding codon or nonsense
codon

<400> 6

Xaa cannot represent
a nonsense codon -

it can only
represent an actual
amino acid

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/763,994

DATE: 07/11/2001

TIME: 11:05:30

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Output Set: N:\CRF3\07112001\I763994.raw

L:10 M:270 C: Current Application Number differs, Replaced Application Number
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:496 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:6
L:496 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:6
L:496 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6